

REMARKS/ARGUMENTS

In response to the Office Action dated May 29, 2008, Applicants request reconsideration and reversal of all rejections in light of the foregoing amendments to the claims and the following remarks. A three month request for extension of time is attached to this amendment and response.

Claims 1, 2, 3, 4, 6 and 11 stand rejected under 35 USC §103(a) as being unpatentable over Shipachev et al. (US Patent 6,378,570 B1) in view of Knopf (GB 958512).

The Examiner contends that with reference to Figure 3 of Shipachev discloses a method of filling a gas capsule comprising a hollow body portion (1) and a cap (5) including a stem (2) with a filling orifice (6). Shipachev discloses the method of providing within the capsule prior to the assembly of the body portion and the cap portion a stopper member (3). Shipachev further discloses the step of filling the capsule with gas under pressure, causing the stopper member to adopt a position between the body of the capsule and the filling orifice and releasing the pressure to force the stopper member into gas tight engagement with the stem portion (2) of the bottle.

Shipachev doesn't disclose a portion of the cap member defining a passage to the orifice of the capsule.

In Figure 2 Knopf discloses a cap portion (1) defining a passage to the orifice of the capsule.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the cap portion from the Knopf reference in place

of the stem portion from the Shipachev reference, in order to allow the manufacturer to select from different orifice sizes while using a standard capsule. Furthermore it would have been obvious to use only the cap body (1) from Knopf and not the catch element (9) in the combined method as the inclusion of catch element (9) would prevent the Shipachev stopper, which moves freely within the capsule from seating properly during sealing.

Applicant contends that the invention as it is now claimed is not obvious over the combination of Shipachev and Knopf. The basis for the amendments to claim 1 may be found in claim 2 and in the specification at page 6, 1st full paragraph and Fig. 8.

Applicants' invention is a method of filling a gas capsule comprising a hollow body portion and a cap assembled thereto and including a stem providing a filling orifice, including the steps of providing within the capsule prior to assembly of the body portion and the cap portion a stopper member that is loose within the capsule, filling the capsule with gas under pressure, causing the stopper member to adopt a position between the body of the capsule and the filling orifice to obstruct the path of gas from the capsule, and releasing the gas pressure at the orifice of the capsule in order to cause the stopper member to be forced under the pressure of gas within the capsule into gas tight engagement with a portion of the cap member defining a passage to the orifice of the capsule, wherein the passage is so formed that it includes within the stem a bore having a constricted portion of reducing diameter, and the stopper member is formed as a ball of resilient material so dimensioned that under the pressure of gas it is forced into the bore and trapped in fluid tight engagement with the constricted portion while leaving a space between the stopper member and the filling orifice.

Shipachev discloses a gas cylinder and filling method wherein a ball is disposed in the gas cartridge. The cartridge is filled with gas through its neck and this forces the ball down into the cartridge. The ball will be pressurized after the fill to press against the orifice in the neck thus preventing leakage of the gas. A cap can also be pushed down through the neck orifice and welded into place. This will cause the ball to disengage from the neck as the pressure inside the gas cartridge after welding of the cap remains constant.

Knopf discloses a ball check valve for pressurized gas containers whereby a nozzle can be used for both filling of and discharge from a gas container. The nozzle fits in a throttling channel in which a valve ball is guided. The valve ball will pass up through the conically widened throttling channel to seal the nozzle when the gas container is pressurized with gas.

This combination of references does not obviate Applicant's invention as they neither teach nor suggest in their combined teachings to leave space between the filling orifice and the stopper member. As seen in Fig. 8 of Applicant's specification, there is a space provided above the stopper member when it has been forced into the bore. This space will enable the capsule to be crimped or not crimped as the case may be. Shipachev provides a method of filling a gas cylinder that when firmly capped with the cap assembly, the ball becomes irrelevant to the sealing process and drops to the bottom of the gas cylinder. However, even in the interim state where the pressure of the gas on the uncapped cylinder causes the ball to close the orifice of the neck. There is no gap maintained between the orifice seal and the opening of the neck orifice during this stage of Shipachev.

Knopf teaches a like phenomenon where the valve ball seals against the valve seat and tightly seals the nozzle when pressurized gas bears against it in the

cylinder. The valve ball seals the whole cylinder and when disengaged allows discharge of the gas therein. Although, like Shipachev, there is space indicated above the ball valve and valve seat, this is the opening of the cylinder and is not an empty space below the tip of closed bore. So whether you replace the cap portion of the Knopf reference with the stem portion of the Shipachev reference, you do not arrive at Applicant's claimed invention. Accordingly, this combination of references cannot be used to obviate the presently claimed invention. Reconsideration and reversal of this rejection are respectfully requested.

Claims 5, 7, 8 and 9 stand rejected under 35 USC §103(a) as being unpatentable over Shipachev in view of Knopf and further in view of Garrett (US Patent 7,013,617 B2).

Garrett discloses a method of filling and sealing using an aluminum capsule. The Examiner further contends that Garrett discloses a method in Figures 1 to 3 of sealing a capsule in which a crimp is made in the stem of a capsule at a location distant from the filling opening followed by a second crimp at the location of the filling orifice followed by a weld at the second crimp.

As such it would have been obvious to modify Shipachev in view of Knopf by forming a first crimp distant from the filling orifice and second crimp at the filling orifice and a weld at the filling orifice to provide a more secure seal. Further it would have been obvious to use the crimping jaws of Garrett as well as the welding the orifice shut with a welding laser.

Applicant contends that the invention as it is currently claimed is not obvious over this combination. As argued above, there is no suggestion by the combination of Shipachev in view of Knopf to include a space above the sealing ball in the neck orifice. Shipachev does not disclose any particular material that their gas

cylinder needs to be fashioned from nor suggest that one material would be preferred over another. Knopf also does not disclose what material his gas containers should be made of. So this combination of references neither teaches the space between the stopper member and the filling orifice nor what the capsule or container should be made of.

With respect to claims 7, 8 and 9, neither Shipachev nor Knopf teach that their container material is a deformable material such as aluminum. As noted in Applicant's specification and claims, the deformable ball is captured between two crimps in the bore. The bottom two crimps capture the ball in the bore thus stopping it from reentering the capsule after sealing the capsule. In Shipachev, the ball is designed to cause a temporary seal and will revert to the inside of the gas cartridge when the cap is installed in the neck. In Knopf, the ball also provides a temporary sealing mechanism and then drops down a disc in the neck of the gas container after filling is accomplished. In neither reference is there any teaching that additional methods are needed to provide a secure seal. The end result of Applicant's crimping results in the ball being held in place between the two crimps and not providing any further sealing once the welding has been accomplished.

As such, Applicant contends that even should he adopt the suggestion of the Examiner of modifying Shipachev in view of Knopf and crimp the bore per Garrett, no additional sealing would be provided and no advantage gained over the welding that is employed. Shipachev in view of Knopf does not obviate the invention as claimed in claim 1 and there is further no reason to incorporate the teachings of Garrett in Applicant's invention. As such, the combination does not teach Applicant's claimed invention and does not obviate claims 5, 7, 8 and 9. Reconsideration and reversal of this rejection are respectfully requested.

Claim 10 stands rejected under 35 USC §103(a) as being unpatentable over Shipachev in view of Knopf and further in view of Chusserath et al. (US Patent 5,634,500).

The Examiner contends that Chusserath discloses a method for bottling a liquid comprising purging a container with an inert gas which is then evacuated prior to filling. As such it would have been obvious to modify Shipachev in view of Knopf with the flush and evacuation step from Chusserath in order that the capsule should be filled only with the desired gas containing no contaminants. Further, it would have been obvious to hold the capsule in an upright orientation during this filling step to prevent the stopper member from lodging in the stem during the evacuation step.

Applicant contends that this combination does not obviate claim 10. Chusserath discloses methods for priming and filling a beverage container with a preferred gas and to avoid contamination of the liquid with air or oxygen. After sufficient removal of air or oxygen with filling and evacuation of the bottle with carbon dioxide, the process for filling the bottle with liquid is started and the liquid displaces the carbon dioxide from the bottle.

Neither Shipachev nor Knopf teach that there is any need to flush or purge their respective containers with any kind of gas prior to filling. Further, Chusserath teaches that the fill and evacuation is to ensure that most if not all oxygen or air is removed from the beverage bottle prior to it being filled with beverage, lest it spoil. There is no teaching from the combination of Shipachev and Knopf to look to any process for the fill and evacuation step claimed by Applicant. Further, if this combination did suggest some form of purging prior to fill, then there would

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be motivation to look to art for filling of gas containers and not for the filling beer bottles. Since this is not the case here, this combination does not obviate claim 10. Reconsideration and reversal of this rejection are respectfully requested.

The prior art made of record and not cited has not been discussed as it is considered less relevant than that art already relied upon.

For these reasons Applicants submit that their claims define patentable subject matter and are in condition for allowance. Prompt favorable action to that end is respectfully requested and a prompt Notice of Allowance is accordingly solicited. The Examiner is invited to call the undersigned should any question arise during the reconsideration of the subject application.

Respectfully submitted,
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